



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,557	01/03/2001	Earl Frederick Barrick	GMU-06-002U	9807

28598 7590 01/30/2009  
GEORGE MASON UNIVERSITY  
OFFICE OF TECHNOLOGY TRANSFER, MSN 5G5  
4400 UNIVERSITY DRIVE  
FAIRFAX, VA 22030

EXAMINER
----------

RAMIREZ, JOHN FERNANDO

ART UNIT	PAPER NUMBER
----------	--------------

3737

MAIL DATE	DELIVERY MODE
-----------	---------------

01/30/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/752,557	<b>Applicant(s)</b> BARRICK ET AL.	
	<b>Examiner</b> JOHN F. RAMIREZ	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 2,6,14,18-25 and 27-30 is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-13,15-17 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed on 11/10/08 with respect to claims 1, 3-5, 7-13, 15-17 and 31 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's alleges that the Measurand reference only discloses external 3D images, whereas, applicant's invention is relating 3D internal image set of the patient.

However, the examiner disagrees with applicant's comments. Such limitation "a 3-D internal image set of the patient" are insufficient to overcome the art reference previously applied as discussed below and previously. In the non-patent literature Measurand Inc., uses a fiber optic based 3D bend and twist sensor, that knows where it is continuously along its length, providing accurate position and orientation information, even when in partial or variable contact with an object or person. It can be used on its own, built into or attached to a structure, or attached to a person to form real-time 3D computer images and collect data corresponding to complex shapes 3-D motion data images are created which later can be edited using software that relates the curvature data with 3D images to create a 3D surface (see SHAPE TAPE, see section Motion capture/Head, Hand & Body Tracking). The examiner has interpreted the term "internal images" as data images already acquired to be related with the curvature sensor data to create a 3D model.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

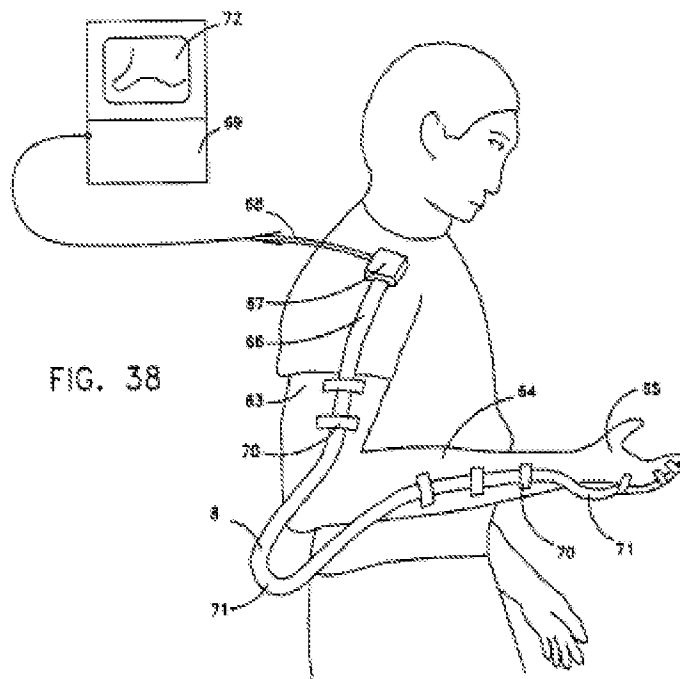
**Claims 1, 3-5, 7-13, 15-17, 26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vilsmeier et al. (US 6,611,700) in view of Danisch (6,127,672), or non patent literature Measurand Inc.**

Vilsmeier et al. discloses a device for performing surgery or therapeutic interventions on a patient, comprising: a first curvature sensor configured to be placed on a patient (col. 1, line 66 - col. 2, line 33). Vilsmeier does not explicitly teach a non-invasive curvature sensor that provides external curvature data and a 3D internal image set. However, medical devices for the application of therapeutics on a patient that has a non-invasive curvature sensor that provides external curvature data and a 3D internal image set, are conventional in the art as evidenced by the teachings of Danisch (6,127,672) and non-patent literature Measurand Inc.

Based on the above observations for a person of ordinary skill in the art , modifying Vilsmeier et al. with a non-invasive curvature sensor that provides external curvature data as taught by Danisch or Measurand Inc. and a 3D internal image set as taught by Measurand Inc. would have been considered obvious in view of the conventionality of these enhancements.

Art Unit: 3737

Additionally, in response to applicant's arguments, the use of a non-invasive curvature sensor placed on a patient that provides external curvature data is conventional in the art as evidenced by the Danisch patent, and non-patent literature Measurand Inc. throughout the drawings that show the curvature sensors that generate data externally affixed to patient(s).



Danisch in Figure 38 above, illustrate the conventionality of using a non-invasive curvature sensor that provides external curvature data. Additionally, the specification in col. 15 line 63 – col. 16 line 30, discloses the use of a non-invasive curvature sensor in combination with a video display computer. Based on the above observations, for a person of ordinary skill in the art, enhancing a sensor with a non-

Art Unit: 3737

invasive curvature sensor that provides external curvature data would have been considered obvious in view of the proven conventionality of this enhancements.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN F. RAMIREZ whose telephone number is (571)272-8685. The examiner can normally be reached on (Mon-Fri) 7:00 - 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/  
Supervisory Patent Examiner, Art  
Unit 3737

/J. F. R./  
Examiner, Art Unit 3737